Manav Mittal, 2021538, CSAI, QUESTION-5

X	Y	Labels		Distance from (37,142)
Age	Loan	HPI	BHK	Age=37, Loan=142
25	40	135	2	102.703
35	60	256	3	82.024
45	80	231	3	62.514
20	20	267	4	123.179
35	120	139	4	22.091
52	18	150	2	124.904
23	95	127	2	49.041
40	62	216	4	80.056
60	100	139	2	47.885
48	220	250	3	78.771
33	150	264	4	8.944

For K=1 the nearest neighbour of (37,142) will be (33, 150) which at distance 8.944.

Therefore for K=1, predicted values of
HPI = 264
BHK = 4

For K=2 the nearest neighbours of (37,142) will be (33, 150) and (35,120) at distance 8.944 and 22.091 respectively.
∴ For K=2, predicted values of
HPI = (264 + 139)/2 = 201.5 ≈ 202
BHK = 4 (since mode of selected d.p. is 4).

For K=3, the nearest neighbours of (37, 142) will be (33,150), (35,120) & (60,100) at distance 8.944, 22.091 & 47.885 respectively. ∴ For K=3, predicted values of
HPI = (264+139+139)/3 = 180.66 ≈ 181
BHK = 4 (since mode of selected d.ps is 4)